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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,220	11/17/2000	Yoichi Mori	2000-1578A	4252

7590 08/27/2004

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EXAMINER

TRAN, HIEN THI

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/714,220	<b>Applicant(s)</b> MORI ET AL.	
	<b>Examiner</b> Hien Tran	<b>Art Unit</b> 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 9-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to: See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 9-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 916,388 in view of Kanno et al (US 2001/001652) and EP 885,648.

With respect to claims 9-10, EP 916,388 discloses an apparatus comprising:

a solids treating means 2 for separating solids from a waste gas containing fluorine-containing compounds;

addition means 32, 41 for adding water and O<sub>2</sub> as a decomposition assist gas to the waste gas leaving the solids treating means 2;

a thermal decomposing means 76 that is packed with alumina 11 heated at 650-750 °C and which thermally decomposes the waste gas to which the decomposition assist gas has been added; and

an acid gas treating means 98 for removing acidic gas from the thermally decomposed waste gas and channels for connecting said means in sequence.

The apparatus of EP 916,388 is substantially the same as that of the instant claims, but is silent as to the specific type of alumina as claimed and fails to disclose the specific type of decomposition assist gas, e.g. hydrogen.

However, Kanno et al discloses the conventionality of using either hydrogen or steam as decomposition assist gas. EP '648 discloses that the added steam is used to generate hydrogen atoms.

Since steam and hydrogen were art-recognized equivalents at the time the invention was made as a decomposition assist gas in treating fluorine compound containing gas, one of ordinary skill in the art would have found it obvious to substitute hydrogen of Kanno et al for steam of EP '388 for the known and expected results of obtaining the same result in the absence of unexpected results.

EP 885,648 further discloses the conventionality of providing a thermal decomposing means packed with gamma alumina.

It would have been obvious to one having ordinary skill in the art to substitute the alumina type of EP 885,648 for the alumina type of EP 916,288 for the known and expected results of obtaining the same results in the absence of unexpected results.

With respect to claims 12 and 23, EP 916,288 discloses that the solids treating means 2 and the acidic gas treating means 98 are water scrubbers (page 5, lines 53-58; page 7, lines 34-39).

With respect to claims 11, 13-18, 20-22, 24-27, 29, EP 916,288 discloses means for controlling the treated gas (page 5, lines 23-35) downstream of the means 59 for

Art Unit: 1764

adjusting the pressure (page 7, lines 43-48, Fig. 3). EP 885,648 discloses means for controlling the treated gas (page 5, lines 32-34).

Selecting an appropriate type of device to perform the analyzing, controlling or pressure adjusting is within the purview of one having ordinary skill in the art during routine experimentation and optimization of the system thereof, absence any unexpected results.

With respect to claims 19 and 28, EP 916,288 discloses a supply line 29 for supplying waste gas into the solids treating device 2; and a discharge line 36 for carrying the treated gas from said acidic gas treating device 98. EP 916,288 fails to disclose a bypass line interconnecting said supply line and said discharge line and having a bypass valve therein.

However, EP 916,288 discloses that the concentration of fluorine containing components in the exhaust gas supplied to and exhausted from the PFC processing apparatus are determined by chromatography. It would have been obvious to one having ordinary skill in the art to provide a bypass line with bypass valve in the modified apparatus of EP 916.288, if the exhaust gas does not contain any significant amount of contaminated components need to be removed and analyzed by the chromatography, so as to discharge the waste gas without entering the purification stage thereof and thereby to save the purification cost attendant therewith.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 9-29 have been considered but are moot in view of the new ground(s) of rejection.

Applicants' argument regarding the bypass line is noted. However, EP 916,288 discloses that the concentration of fluorine containing components in the exhaust gas supplied to and exhausted from the PFC processing apparatus are determined by chromatography. It would have been obvious to one having ordinary skill in the art to provide a bypass line with bypass valve in the modified apparatus of EP 916,288, if the exhaust gas does not contain any significant amount of contaminated components need to be removed as being analyzed by the chromatography, so as to discharge the waste gas without entering the purification stage thereof and thereby to save the purification cost attendant therewith.

Applicants' argument with respect to the specific type of analyzer is noted. However, EP 916,288 discloses means for controlling the treated gas (page 5, lines 23-35) downstream of the means 59 for adjusting the pressure (page 7, lines 43-48, Fig. 3). EP 885,648 discloses means for controlling the treated gas (page 5, lines 32-34). Based on the teachings of the two EP reference, selecting an appropriate type of device to perform the analyzing, controlling or pressure adjusting would be within the purview of one having ordinary skill in the art during routine experimentation and optimization of the system thereof, absence any unexpected results.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Imamura (5,649,985 and 6,126,906) are cited for showing state of the art.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

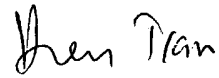
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/714,220  
Art Unit: 1764

Page 7

A handwritten signature in black ink, appearing to read "Hien Tran". The signature is fluid and cursive, with the first name "Hien" and last name "Tran" clearly distinguishable.

HT  
August 23, 2004

**Hien Tran**  
**Primary Examiner**  
**Art Unit 1764**